

CHAPTER V

Converting to a Citizen Corps

Of all the elements that make up an army the most essential and yet the most variable is the human one. At the outbreak of war in Europe the United States Army was composed of a small core of professional soldiers in the Regular Army and a group of semiprofessionals in the National Guard and Officers Reserve Corps. With these forces, augmented by voluntary enlistments, the War Department planned to have a million men ready to fight within six months after the beginning of an emergency. In case of a full-scale mobilization the War Department contemplated the creation of a citizen army of four million men. In the two years following the invasion of Poland, the Army more than reached its initial objective of one million men. At the same time it changed from a professional to a citizen army. The transition was not a simple one. Since most recruits had had no previous military experience they had to be trained from scratch in the art of warfare. Yet in view of the increasing dependence of branches like the Engineers on mechanical equipment, those citizen soldiers with industrial skills could be considered partially trained. The creation of an effective fighting force depended in large part on the proper utilization of such men and their integration with the professionals and semiprofessionals to form efficient operating units.

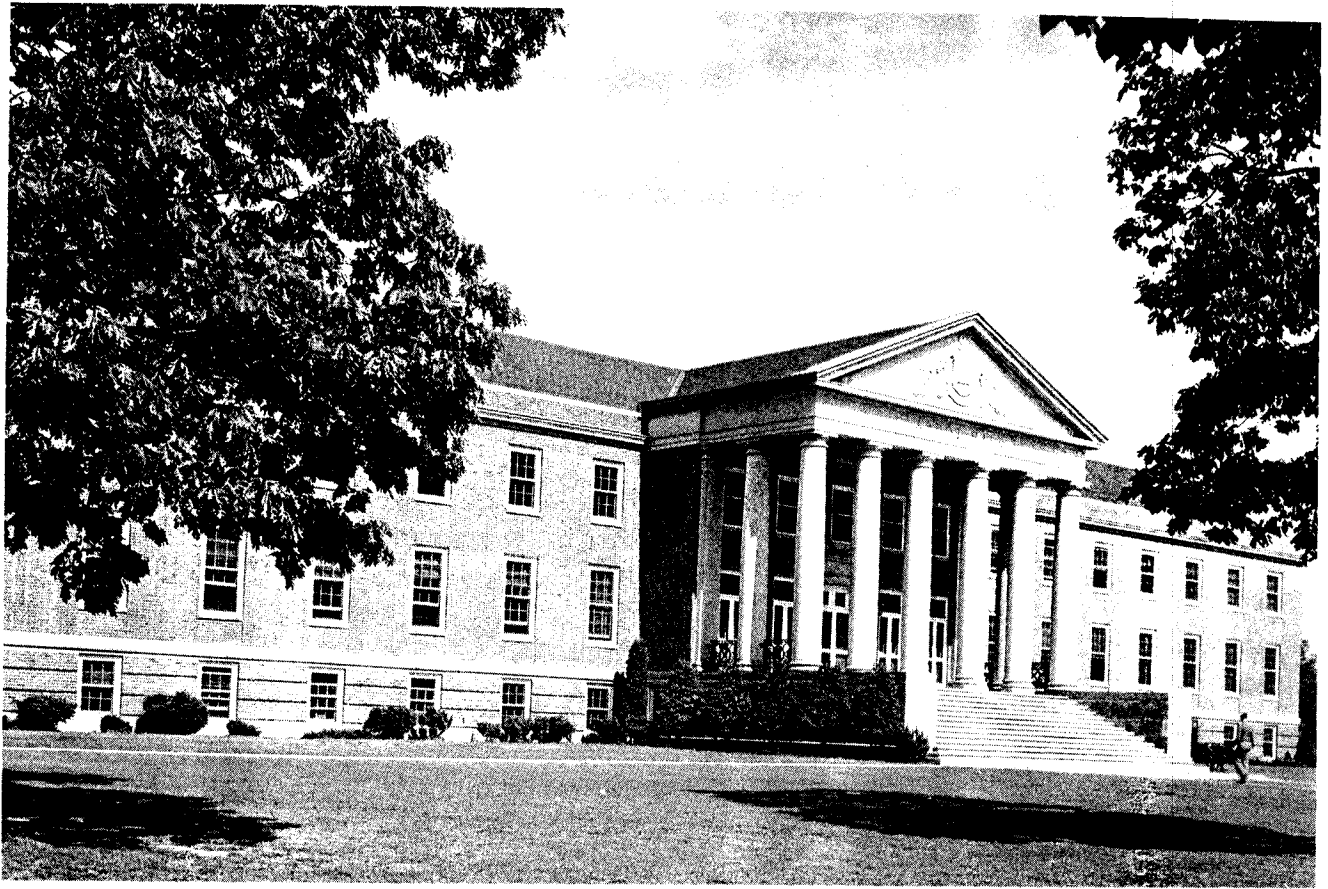
The Nucleus

On 30 June 1939 there were 786 Engineer officers and 5,790 Engineer enlisted men in the Regular Army. Most of the officers were assigned to OCE, civil works districts, Reserve Officers Training Corps (ROTC) units, or sundry tasks in the War Department. Little more than a fourth of them were on duty with troops in the field. Although the primary source of their commissions was the United States Military Academy, many had obtained Regular Army commissions by appointment from civil life or after service as reservists.¹

The Engineers considered all new officers, whatever their background, only partly trained. The basic education of an Engineer officer became complete only after two years with troops, a year of graduate work at a civilian engineering school, nine months at the Engineer School, and two years on rivers and harbors duty.² Circumstances did not always permit this program to be followed in prescribed sequence, but OCE frowned

¹ (1) Ann Rpt OCE, 1939. (2) Memo, ACofEngrs of ACofS G-1, 12 May 39. 310.3, Engrs Corps of, Pt. 15. (3) Rpt, Distr of Commissioned Pers—RA Active List, 30 Jun 39. Same file.

² (1) Info Bull 6, 16 Mar 38, sub: New Appointments in CE. (2) Memo, CofEngrs for ACofS G-3, 5 Apr 39, sub: Additional Offs for ROTC Duty. 210.64, Pt. 1. (3) Memo, ACofEngrs for C of Pers Sec, 25 Jan 40, sub: Six Year Tng Program for Offs. 210.4, Pt. 1.



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upon deviations from it, as the following reaction toward Rhodes scholarships shows:

It has been the observation of this office and of the faculty of the Engineer School that although the three year course at Oxford University undoubtedly has a cultural value it nevertheless delays by that amount the essential training of an officer. It has been noted that the Rhodes scholars usually stand near the bottom of their class in the Engineer School and that their Oxford training appears in large measure to have neutralized the splendid training previously received at West Point.³

The Engineers were concerned first and last with the technical competence of their officers.

The 5,790 enlisted men in the Corps in June 1939 were volunteers, many of whom, especially among the noncommissioned of-

ficers in the top grades, had been in the Army for many years. Except for some three hundred on duty at the Engineer School or scattered among corps area and department headquarters they were members of troop units. During the thirties most of the enlisted men were jacks-of-all-trades admirably equipped for the varied duties performed by the divisional units which made up the bulk of the engineer component of the Army. By 1939 the background of a good many recruits had changed. They were younger, had more formal education, but, as a result of the unemployment of the thirties, had acquired fewer skills.⁴

³ Liaison Ind, Kingman to TAG, 11 Oct 38, on Liaison Memo from AGO, 7 Oct 38. EHD files.

⁴ O&T Office Study 160. EHD files.

The engineer Regular Army units had a dual function—operations and training. All of them devoted much time to road building, construction of simple structures, or landscape gardening. Some helped instruct Reserves at summer camps or tested new techniques and equipment. Others had more specific tasks at overseas bases or Army schools. Such work hindered systematic training. Even though troop units were small and few in number (there were only twelve of them in 1939) shortages of equipment, particularly modern equipment, forced officers to improvise and to simulate some aspects of training. As a consequence, field exercises were distorted and unrealistic.⁵

The Army tried to compensate for this imperfect unit training by emphasizing the schooling of individuals. Engineer units conducted courses to qualify men as construction foremen, demolitions experts, electricians, and carpenters. Officers broadened their knowledge at general service schools, the Command and General Staff School, and the Army Industrial College, but for special training the Army relied mainly upon special service schools within each branch. The backbone of the training program at the Engineer School was a nine-month course for Regular Army officers. Instruction covered organization of the Army and of the Corps of Engineers, military history, mobilization problems, training management, principles of command and logistics, equitation, tactics of the Engineers and of associated arms, mapping, fortifications, and construction. All officers were expected to take this course. Three technical courses in the most complicated duties of engineer soldiers were offered to key enlisted men selected for attendance: electricity, motors, and water purification; surveying, drafting, and aerial photographic mapping; and map

reproduction and photography. The Engineer School had a capacity for about forty officers and about fifty-five enlisted students. Administration, instruction, and caretaking were carried on by about eighteen officers and a group of 215 enlisted men who formed the school detachment. Because of their low grades and ratings, enlisted instructors sought and received offers of better positions with other organizations. The resulting turnover in personnel, coupled with inadequate facilities, hampered the school's program. Although individuals who attended went away better equipped to perform their military duties, the school could not entirely make up for the shortcomings that existed in the field.⁶

With such typical deficiencies in training, manpower, and equipment, the Army of the thirties did not present a very formidable fighting force. After war broke out in Europe the War Department, in an effort to improve the state of preparedness, began a limited reorganization and expansion. For the Engineers an immediate effect was the demand for more officers with troops, a need that was met by transferring a number of officers from civil works districts and by compressing the course at the Engineer School into one semester. Regulars who

⁵ (1) Ann Rpt OCE, 1939. (2) Info Bull 9, 25 Jul 38, sub: Unit Tng. (3) Tng Memo 52, Hq 5th Engrs, 26 Oct 38, sub: Tng Program, 1 Nov 38–31 Oct 39. 353, Pt. 14.

⁶ (1) Bull cited n. 5 (2). (2) 2d Ind, Comdt Engr Sch to CofEngrs, 27 Jun 38, Incl, with 1st Ind, Comdt Engr Sch to CofEngrs, 8 Nov 38, on Ltr, ExO Mil Div to Comdt Engr Sch, 5 Nov 38, sub: RA Offs 1939–40 Course at Engr Sch. 210.3, Engr Sch, Pt. 3. (3) 1st Ind, Hq Engr Sch to CofEngrs, 8 Jul 39, on Ltr, AC of O&T Sec to Comdt Engr Sch, 6 Jul 39, sub: Capacity of Enl Spec Sch. 352.4, Engr Sch. (4) Personal Ltr, Capt C. T. Hunt, CO Engr Sch Det, to Kingman, 3 Jan 40. Loose Corresp, 1940. (5) Ltr, Hunt to CO Ft. Belvoir, 25 Jan 40, sub: Increased Grades and Ratings for Engr Sch Det. Same file.

would normally have been tied up at the school were assigned to troop units and their places filled by National Guard and Reserve officers who needed a brush-up course prior to field duty. But it was within troop units themselves rather than at the school that the major adjustments to the expansion were made.⁷

Old units provided new units with cadres. Thus the 1st Engineer Regiment sent experienced men to the 1st Engineer Battalion, the 27th Engineer Battalion, the 70th Light Ponton Company, and the Headquarters Company, 18th Engineer Regiment. Even the 4th Engineers which consisted of but a single company gave up twenty-four men. Such transfers insured the mingling of seasoned troops with recruits and distributed the training load.⁸

In 1935 OCE had prepared a 16-week mobilization training program (MTP) for emergencies and during the summer of 1939 had made a hurried revision to delete training in animal transportation, to change text references, and to increase the time allotted to defense against tanks and other vehicles. Although the MTP of 1939 was devised for the combat regiment, other types of units were expected to use it as a guide. More than half of the program's 640 hours was to be devoted to training in military engineering, about one sixth to drills, marches, and other basic and disciplinary subjects, and the remainder to marksmanship and tactical exercises such as scouting and patrolling.⁹

Few units had time to follow this schedule. As station areas were enlarged, engineer troops became involved in surveying sites, laying out tent camps, pulling up stumps, installing utilities, and building roads. At Fort Benning, the 21st General

Service Regiment spent its 1939 Christmas holidays erecting a tent camp for armored units. At Camp Jackson, the 6th Engineers built and repaired combat ranges and took over construction of a hospital, about twenty mess halls, and other buildings. Good practice in construction, certainly, but hardly varied enough to create a balanced engineer soldier. Equipment, like personnel, had to be shared. The 21st Engineers had little but hand tools when it started building the camp for armored units. Most of the equipment of the 4th Engineers was five years old and needed replacing. Often troops had to borrow power machinery from the Quartermaster or the WPA. Nearly all units complained of an acute shortage of vehicles. If not in short supply, vehicles were usually run-down.¹⁰

The meagerness of equipment and lack of opportunity for realistic training that plagued the Regular Army existed in an exaggerated degree in National Guard units, the first line of reserve strength. In June 1939 there were 487 officers, 17 warrant officers, and 5,380 enlisted men in the engineer component of the National Guard; a year later, 569 officers, 18 warrant officers, and 10,191 enlisted men. National Guard units were controlled and administered largely by the states. Practices were therefore not uniform, even though units had to

⁷ Ltr, AG 352 (11-3-38) M-C to CofEngrs, 9 Nov 39, sub: Modification of Sch Courses. 352.11, Pt. 4.

⁸ O&T Office Study 160. EHD files.

⁹ (1) 1st Ind, ExO Mil Div to Engr Fourth Corps Area, 1 Feb 39, on Ltr, Actg Engr Fourth Corps Area to CofEngrs, 23 Jan 39, sub: Tng Sched for Engr Units for Use Upon Mob. AG file, Engrs, 370.93, Mob Engr Ser Nos. 50-Folio 3. (2) AG Ltr 381 (9-12-39) P (C) to CofEngrs, 18 Sep 39, sub: Unit Tng Programs for Mob, with 1st Ind, C of O&T Sec to TAG, 12 Oct 39. Same file. (3) O&T Office Study 162. EHD files.

¹⁰ O&T Office Studies 160 and 162. EHD files.

meet standards established by the War Department and had Regular Army instructors.¹¹ Because of the little time available—a few hours weekly and a two-week summer camp—such units received but a smattering of training. The Engineer School did offer two courses each year for National Guard personnel. One was a three-month course for Guard and Reserve officers that covered approximately the same subjects as the nine-month course for Regular Army officers. The other, for noncommissioned officers, ranged over the whole of their duties in a combat regiment. But the school's limited facilities permitted few to attend.¹²

The occupational backgrounds of Engineers in the National Guard could not make up for lack of modern equipment and haphazard training. "A regiment is fortunate if half its officers are engineers either by education or practice," Schley pointed out regretfully in September 1939. "Few noncommissioned officers are foremen, and most of the men do not work with their hands in their vocations."¹³ Observers at the August 1940 maneuvers remarked on the Guard's lack of initiative and the failure of its officers to make significant contributions to organizational theory or tactics. Galloway of O&T rated National Guard engineer units from poor to good in comparison with the excellent he accorded Regular engineer units.¹⁴ Yet for all its deficiencies, the National Guard was an organized force that had had some training. It provided a ready-made framework into which the first group of selectees could be absorbed, and the War Department urged that it be called up as a necessary prelude to the draft. The furor following the fall of France was to lead at the end of August 1940 to Congressional authorization for such action and the Na-

tional Guard was thereafter gradually absorbed into the main body of the Army.

While the National Guard was the first line of reserve, another civilian component, the Officers' Reserve Corps, was considered the major base for a large-scale expansion. In the prewar years there were few enlisted men in the Reserves. Mobilization plans were based on a nucleus of officers around which new units could be organized and trained. Appointments in the Engineer Officers' Reserve Corps were open to men between the ages of twenty and thirty who had an engineering degree, who had practical experience in military drill, and who qualified in military subjects through examination or by taking extension courses. On 30 June 1939 there were over 8,000 men in the Engineer Officers' Reserve Corps, but not all were eligible for active duty either because of failure to maintain an interest in Reserve affairs or because of age. Only about 200 were directly under the control of the Chief of Engineers, the rest being assigned to corps area commands. Nevertheless, OCE was expected to maintain an interest in their status and for all practical purposes determine the standards for granting commissions and promotions. There were 29 ROTC units in 1939, one third of which had been established since 1935. The Engineers received

¹¹ Ann Rpts OCE, 1939, 1940.

¹² Programs of Instruction NG and Res Offs Course 1940 and NG NCOs and Sgt Instructors Course 1939, Incl with Ltr, Comdt Engr Sch to TAG, 17 Jun 40, sub: Rpt of Opns of Engr Sch 1939-40. EHD files.

¹³ Info Bull 31, 26 Sep 39, sub: Extracts From Comments on First Army Maneuvers.

¹⁴ (1) Personal Ltr, Col G. Van B. Wilkes, Engr Second Army, to Godfrey, 3 Sep 40. 354.2, Pt. 7A. (2) Rpt, Lt Col J. H. Carruth, Engr Sch, to Comdt Engr Sch, 20 Sep 40, sub: First Army Maneuvers, Aug 40. 354.2, 315A, Bulky. (3) Ltr, Galloway to CofEngrs, 12 Sep 40, sub: Rpt on Third Army Maneuvers, Aug 40. 354.2, Pt. 7A.

600 officers from this source in 1939. By 1941 the number had jumped to 800.¹⁵

Although applicants for the last two years of ROTC training were supposedly selected on the basis of scholastic standing and military aptitude, absolute control of ROTC membership was more wishful than real. Since civil engineering provided the best preparation for construction work, men who had majored in this subject were preferred, but the number of civil engineering students had so sharply declined during the thirties that the Engineers were forced to accept more graduates from other branches of engineering than they wished. Only 16.4 percent of the officers commissioned from ROTC engineer units in 1939 were civil engineers. The largest number, 25.5 percent, were mechanical engineers.¹⁶

Once commissioned, ROTC graduates continued military training under Corps Area Engineers aided by officers in the civil works districts who had Reserve instruction as a secondary duty. From time to time the General Staff criticized the Engineer system, comparing it unfavorably with that of other branches in which officers were assigned exclusively to Reserve instruction. The Engineers defended the arrangement on the grounds that it enabled them to use their small number of Regular Army officers to better advantage and argued that it was practical in view of the day-to-day contact maintained by civil works officers with civilian engineers who were also Reserve officers. Schley's awareness of the criticisms of this system probably led him to make Reserve instruction a particular concern. Theoretically, he could act only in an advisory capacity, but his direct authority over Division and District Engineers enabled him to push the matter.

The primary purpose of Reserve training

was to ready each officer for a mobilization assignment. He was also expected to perform occasional duties in peacetime and to qualify for the next higher grade. Extension courses prepared by the Engineer School and periodic meetings made up his course of study. Upon completing a designated block of such training a Reserve officer was eligible for active duty at a military camp where he worked on tactical and administrative problems. While these requirements were not excessive, certain obstacles stood in the way of carrying out the program effectively. Its success depended on maintaining the reservist's interest. Most officers were assigned positions in specific units, but in rural regions it was difficult to assemble them for instruction. The bulk of training literature was aimed at general units. General training, O&T argued, would not only suffice for all special units except for topographic, camouflage, and railway, but would also make officers in such organizations available as fillers and loss replacements for the "more important" combat and general units.

In 1939 and 1940 the Engineers began to explore new ways to promote interest in the Reserves and to improve the quality of instruction. Pleas for more training literature, particularly literature for special units, were met by a concerted effort on the part of the Engineer School to bring Reserve instruction abreast of the latest advances in tactics and technique. OCE announced itself ready to supply additional Regular officers to summer camps. District and Corps Area Engineers who were closest to the situation offered many suggestions which

¹⁵ (1) Ann Rpts OCE, 1935, 1939, 1941. (2) Info Bull 22, 11 Feb 39, sub: Engr Res Tng. (3) AR 140-5, 17 Jun 41.

¹⁶ Memo, C of O&T Sec for CofEngrs, 7 Apr 41, sub: Brs of Engineering Represented in ROTC Grads. 353, ROTC, Pt. 16.

OCE summarized and published. Interest could be stimulated by social activities and by joint meetings with the Society of American Military Engineers. Experience with standard equipment might be obtained through association with National Guard units.

Meanwhile events forced further changes. As the Army expanded, and as personnel in civil works districts began to be absorbed in the supervision of airfield construction, District Engineers had less and less time to devote to the Reserve. In December 1940, OCE recommended that Reserve officers take over this job entirely. By then increasing numbers of Reserves were being called up for extended active duty.¹⁷

The "Terrific" Expansion

Furnishing cadres for new units during the first nine months of the European war had entailed more or less serious dislocations, but the adjustments of that period were insignificant compared to those required when the Army began to expand in earnest. As of 30 June 1940 only forty-four Engineer Reserve officers had been called to extended active duty. There had been a twenty-four-man increase in Regular Army officers and the number of enlisted men had risen from 5,790 in June 1939 to 9,973 in June 1940. But this was a mere trickle of new men. Within the next year the flow turned into a raging torrent.¹⁸

In August 1940 Kingman called attention to the "serious deficiency" in engineer troops. Particularly lacking were general service regiments, topographic companies, depot companies, shop companies, and dump truck companies. He urged that more of these units be activated if there were a

further build-up of the Army and proposed a contingent of 91,000 Engineers, or 7 per cent of a 1,300,000-man Army. By October the War Department had authorized 75,000 Engineers, exclusive of aviation units. In view of the 1,400,000-man Army then projected, engineer troops would comprise but 5.45 percent, which Kingman contended was insufficient. His argument for more engineer units in the Army, like his arguments in justification for more engineers within these units, was based on the lessons of the war in Europe. Despite Kingman's realization that the authorized expansion to 75,000 men might overtax existing units since the Engineers were already absorbing men twice as fast as the Army as a whole, he urged the activation of more topographic and camouflage units and called for more Engineers for the Air Corps and for armored divisions. The General Staff's War Plans Division conceded that the existing proportion of combat engineer troops in the Army might be too small, but wished to abide by existing plans pending the completion of an overall study or until the Army took in more men. Recognizing that augmentations in engineer troops would have to occur at the expense of other arms and services, G-3 took a similar position. An exception was to be made only in the case of engineer aviation units.¹⁹

Even though Kingman did not obtain all the troops he wanted, the Chief of Staff announced in April 1941 that the Engineers had undergone "one of the most terrific

¹⁷ (1) Info Bull 22, 11 Feb 39, sub: Engr Res Tng. (2) Info Bull 44, 10 Apr 40, sub: Res Tng. (3) Corresp in 353, Organized Res, Pts. 10-12; 326.02, Pt. 3; and 210.3, Organized Res, Pt. 1.

¹⁸ Ann Rpts OCE, 1940, 1941.

¹⁹ (1) 320.2, Pt. 25. (2) 320.2, Engrs Corps of, Pt. 12.

expansions" in the Army.²⁰ As of June 1939 the Corps of Engineers comprised 3.3 percent of the Army; a year later, 4 percent. In June 1941 the percentage rose to 5.1 and by 31 December 1941 had reached 5.5. By September 1941 the Engineers had added 98 units to the 12 they had had in June 1939. In actual numbers the bulk of the growth occurred in the fiscal year 1941 when enlisted strength, fed by the draft, climbed from 9,973 to 69,079. The Army as a whole increased five and a half times in that period; the Engineers, almost sevenfold.²¹

Shortly after passage of the Selective Service Act in September 1940, O&T notified engineer units that about one third of their men would have to be used as cadres for new units and for the engineer replacement training centers that were to go into operation the following spring. As administrators and instructors of recruits, enlisted cadremen had to be noncommissioned officer material. In order to assure some stability to a unit it was also desirable that they be three-year men rather than draftees, who were then being called up for only one year. Not all units could be evenly pruned. Those designated for task forces at overseas bases had to be kept in a reasonable state of readiness. The percentage of three-year men within each unit varied therefore with the nature of the unit's mission and the complexity of specialist training. One commanding officer who was fairly hard hit for cadremen estimated that two out of every three in his organization would be recruits.²²

The ability of the cadremen to turn the incoming tide of citizens into soldiers depended in large degree on the qualifications of the recruits themselves. Conscious of the need to put civilian skills and knowledge to good use the War Department inaugurated

a new classification and assignment system in the fall of 1940. One of its two essentials was the Army General Classification Test (AGCT) which, like other standard tests, reflected the individual's social, economic, and educational background as well as his innate ability. According to their scores on this test individuals were placed in one of five classes, the highest being designated Class I. The other means of classification was an analysis of occupational skills. The occupational classification system listed 272 civilian jobs which were directly useful to the Army. To each of these a specification serial number (SSN) was assigned. At the same time the Army listed military jobs taken from T/O's and gave each of these an SSN. Thus the numbers from 001 to 272 represented both civilian and military jobs. A civilian carpenter and a military carpenter had the same SSN. Since the Engineers had understood that some such arrangement would be devised they had made no provision for training enlisted specialists except at the Engineer School and at a few selected trade schools.

Under the classification and assignment system the Engineers enjoyed certain theoretical advantages, for of all the branches of the Army they required the greatest variety of occupational specialists. Although the main demand was for carpenters, construction foremen, truck drivers, toolroom keepers, riggers, mechanics, and demolitions

²⁰ Testimony of General George C. Marshall, 28 Apr 41. H Comm On Appropriations, *Military Establishment Appropriation Bill, 1942, Hearings*, 77th Cong, 1st Sess, p. 32.

²¹ (1) Watson, *Chief of Staff*, p. 16. (2) Ann Rpts OCE, 1939-41. (3) Greenfield, Palmer, and Wiley, *Organization of Ground Combat Troops*, p. 203.

²² (1) Memo, O&T Sec for Brig Gen Clarence L. Sturdevant, 19 Feb 41, sub: Distr of Engr Specs From ERTC and Three-Year Enl Pers. 327.3, Pt. 1. (2) Corresp in 320.2, Pts. 25, 27, 28.

men, the Engineers needed 91 different kinds of specialists at a rate of 727 per thousand. The Infantry required only 40 different specialists at 239 per thousand, the Air Corps 71 specialists at 777 per thousand, and the Signal Corps 66 specialists at 892 per thousand. Percentagewise also the Engineers stood well up on the list. Sixty percent of Engineer troops would be specialists, as compared with 78 percent of the Air Corps; 74 percent Finance Department; 69 percent Signal Corps; 63 percent Quartermaster Corps; 51 percent Ordnance Department; 48 percent Field Artillery; 47 percent Medical Department; 38 percent Coast Artillery; 28 percent Cavalry; 21 percent Chemical Warfare Service; and 21 percent Infantry.²³

The fact that the theoretical correlation between civilian and military jobs was not always achieved worked considerable hardship on the Corps of Engineers. The system assumed proper classification, but at first the Army had few qualified classifiers. After being classified, recruits could be kept at reception centers only a short time because room had to be made for newcomers. From the reception center a recruit was assigned on a quota basis and frequently there was no quota for a specialist of a particular type at a particular time. Rarely could the reception center hold such an individual until the branch that needed him requisitioned him.²⁴

Recalling that the Corps of Engineers had been forced to stand by during World War I while other branches received many men with engineering experience, Schley counseled early and constant vigilance to secure qualified selectees.²⁵ After analyzing the process of reception and classification, Maj. William W. Bessell, the chief of the Personnel Section, concluded:

The allotment of quotas of each classification of specialists . . . will be based on "occupational frequency" or averages computed for a division or other Army unit. In other words, rather than determine the *exact* needs of a unit in particular Specialists, a "type" number is used, much as shoe and clothing tariff sizes are used in computing depot needs.

In the last analysis . . . despite such efforts at standardization, the old and familiar "personal equation" will dominate the method and results of the classification, and the best way to insure getting good men for the Engineers is to contact the individuals doing the classification.²⁶

Not a few commanding officers complained that the first recruits were a disappointment. One regiment, the 43d Engineers, which had secured its men by the personal approach, illustrated the wisdom of Bessell's method, although it was manifestly impossible on a larger scale. The corps area commander had allowed officers from the regiment to handpick selectees at the reception center. Most of them had "construction experience or if basic privates, are husky country boys," exulted the commanding officer. As the Army's classifiers acquired experience other unit commanders who had

²³ (1) MR 1-8, 18 Sep 40. (2) Testimony, Lt Col Harry L. Twaddle, 1940. H Comm on Military Affairs, *Selective Service Compulsory Military Training and Service, Hearings*, 76th Cong, 3d Sess, pp. 93-94.

The ratio of specialists was, of course, subject to change. In January 1943 the Transportation Corps required 788 specialists per thousand; the Corps of Engineers, 725; Ordnance Department, 641; Signal Corps, 579; Quartermaster Corps, 466. Palmer, Wiley, and Keast, *Procurement and Training of Ground Combat Troops*, p. 8.

²⁴ Roy K. Davenport and Felix Kampschroer, eds., *Personnel Utilization: Classification and Assignment of Military Personnel in the Army of the U.S. During World War II*, September, 1947 (Rev). MS, OCMH.

²⁵ Memo, Schley for Kingman, 23 Sep 40. 327.3, Pt. 1.

²⁶ Draft of Memo, C of Pers Sec (no addressee), 28 Sep 40, sub: Class of Selectees. 327.3, Pt. 1.

not resorted to personal interviews expressed similar satisfaction with the quality of personnel received.²⁷

Lacking the educational and vocational opportunities of whites, the Negro was wanting in the training and experience which the Army used as a basis of classification. Although Negro strength in the Army was to be maintained at the same ratio that existed in the civilian population—around 10 percent—the War Department proscribed any mingling of white and Negro soldiers. The result was a concentration of poorly qualified personnel in Negro units and a concentration of Negroes in certain branches.²⁸ The War Department notified the Engineers that “the number of colored personnel which must be accepted . . . together with the undesirability of activating large numbers of colored combat units requires that service units must, in general, absorb more than their normal percentage. . . .”²⁹ Under the announced policy more than one fourth of engineer enlisted men would be Negroes. Most of them were destined for separate battalions which were large pools of unskilled labor, and had in fact during World War I been called labor battalions. Other Negroes were to be organized into dump truck companies, light ponton companies, and general service regiments. Segregation into units such as these prevented the most effective use of skilled Negroes.³⁰

The 105 Negro enlisted men in the Corps in June 1940 were assigned to the Engineer School detachment at Fort Belvoir where they performed menial tasks. Only twenty of them had grades above private first class. Since it was impossible to supply cadres from this group, the first Negro engineer

tactical unit in World War II had to draw its cadre from the infantry and cavalry. This unit, the 41st General Service Regiment, was organized on 15 August 1940 under the command of Lt. Col. John E. Wood, who had great enthusiasm and confidence in his men and their ability. “We have made it clear that we are soldiers—for either construction or combat; that we are not to be confused with labor troops . . .,” he wrote in September 1940, adding proudly, “We can handle any expansion the War Department prescribes for us.”³¹ Notwithstanding Wood’s optimism the 41st Engineers was hardly a broad enough base on which to begin an expansion. In February 1941 the Engineers faced a job of activating four separate battalions and providing cadres for twenty-three companies at

²⁷ (1) Ltr, CO 29th Engr Bn to CG Fourth Army, 13 Dec 40, sub: Analysis of Qualifications, Selective Service Men. 327.3, Pt. 1. (2) Personal Ltr, Lt Col William F. Heavey, CO 20th Engr Regt, to Kingman, 15 Mar 41. 417, Pt. 10. (3) Personal Ltr, Kingman to Heavey, 21 Mar 41. 417, Pt. 10. (4) Personal Ltr, Lt Col Mason Young, CO 43d Engr Regt, to Godfrey, 24 Mar 41. 320.2, 43d Engrs. (5) Ltr, CO 62d Engr Co (Topo) to CofEngrs, 26 Aug 41, sub: Comments on Orgn and Tng of Topo Co (Corps). 320.2, 62d Engrs. (6) Ltr, CO 67th Engr Co (Topo) to CofEngrs, 27 Sep 41, sub: Rpt on Orgn, 67th Engr Co (Topo). 320.2, 67th Engrs.

²⁸ The subject of Negro troops in World War II is covered fully in Ulysses G. Lee, *Employment of Negro Troops*, a volume in preparation for the series, *UNITED STATES ARMY IN WORLD WAR II*. Except when otherwise noted the following discussion is based upon Lee, Chapters II, V, and VI and upon correspondence in 322.999, Pt. 1; 680, RTC, Pt. 1; 320.2, Pts. 25–26; 320.2, 41st Engrs; and 320.2, Engrs Corps of, Pts. 12, 14.

²⁹ 1st Ind, AG 680.1 (10–30–41) MC–C to CofEngrs, 21 Nov 41, on Ltr, CofEngrs to TAG, 30 Oct 41, sub: ERTCs for Augmentation of Army. 680.1, RTC, Pt. 1.

³⁰ Incl 1, RTCs, with AG Ltr 680.1 (10–15–40) M–C–M to Cs of Arms and Svs *et al.*, 25 Oct 40, sub: RTCs. 327.3, Pt. 1.

³¹ Personal Ltr, Wood to Kingman, 27 Sep 40. 320.2, 41st Engrs.

replacement training centers. Four more separate battalions, a general service regiment, two light ponton companies, and two dump truck companies were to be activated in June. Cadre requirements for February alone were estimated at 700 Negro enlisted men. Yet in November 1940 there were only 695 enlisted men in the 41st Engineers and Kingman judged 195 of them unfit for any grade above private. Kingman first requested Negro cadres from other arms and services but they had their own requirements to meet. Wood then proposed to improve the ability of the 41st Engineers to furnish cadres by expanding the unit to war strength, by staggering the activation of new units, and by using the 41st as a partial replacement depot to train Negro recruits for other branches. The War Department approved all these proposals within the next few months.³²

These measures did not resolve the situation. One of the commanding officers of a new separate battalion noted in March 1941 that many of his enlisted cadremen could scarcely add or spell. The following August Kingman remarked on the relatively few Negroes who were qualified to become non-commissioned officers of the first two grades and directed O&T to arrange more schooling for Negroes. Meanwhile more white Reserve officers had to be assigned to Negro units.

About the same time the Engineers began to discuss the possibility of securing a reduction in the number of Negroes allotted them. According to the War Department's plans for fiscal year 1942, the Engineers would have received 15 percent of the Negro strength in the Army. OCE agreed with the War Department that combat units should

be white and felt further that except for dump truck and ponton companies the technical nature of the duties of special units precluded the acceptance of Negroes. The fact that the AAF was willing to permit 28.1 percent of its aviation engineers to be Negro relieved the situation somewhat. Still the Engineers figured that 70 percent of the troops organized for major construction would be Negro, and they felt this ratio was too high. Construction work with power machinery required skills which comparatively few Negroes had and which few could readily acquire, the argument ran. The proper percentage of Negro construction troops was concluded to be 40 percent.

Early in October Col. Raymond F. Fowler, chief of O&T, pointed out that to achieve this percentage, either several corps combat regiments would have to be organized as Negro units or the number of Negroes coming to the Engineers must be reduced. At the end of that month Reybold, the new Chief of Engineers, asked the War Department to cut the number of Negro troops being assigned.³³ The War Department rejected both suggestions, reiterating that large numbers of Negro combat units would be undesirable, and adding that experience had shown that "certain engineer units, notably separate battalions and dump

³² (1) Ltr, AC of Engrs to TAG, 31 Oct 40, sub: Tng of Colored Cadres (320.2, Pt. 26), states that twenty-six RTC companies were to be activated. Only twenty-three were finally activated. (2) Info Bull 84, 10 Apr 41, sub: Orgn of Engr Units.

³³ (1) Memo, Capt William W. Brotherton, AC of O&T Sec, for Fowler, 31 Jul 41, sub: Negro Units in Augmented PMP. AG file, Engrs, 370.9, Mob Ser. Nos. 435-63. (2) Memo, C of O&T Sec for Kingman, 4 Oct 41, sub: Engr Units for Force of 3,200,000. 320.2, Engrs Corps of, Pt. 14. (3) Ltr, CofEngrs to TAG, 30 Oct 41, sub: ERTCs for Augmentation of Army. 680.1, RTC, Pt. 1. Specifically, Reybold asked that plans for expanding capacity for Negro troops at ERTC's be reduced.

truck companies function reasonably well with colored personnel.”³⁴

The initial expansion of the Army during fiscal year 1940 had imposed little strain on the supply of Regular Engineer officers. By transferring 40 from the civil works program, by reducing by almost 100 the attendance at special and general service schools, and by withdrawing 27 from ROTC units, OCE had succeeded by 1 September 1940 in assigning 378 officers to engineer troops as compared with 198 a year before. The Engineer Reserve, too, had seemed ample. When in December 1939 the War Department limited new appointments in the Officers' Reserve Corps to ROTC graduates, OCE accepted the action with equanimity. The constant additions coming to the Engineers through the ROTC made the supply of reservists sufficient, noted Major Claterbos of O&T, and the suspension of other appointments was sound—at least until it was possible to weed out those who were over-age or physically unfit. Calling up reservists seemed primarily a matter of setting up a system of priorities in assigning them. Under the system established in September 1940, priority was to be given first to existing units, then to overhead and service requirements, and finally to new units. Preferably a Reserve officer would take a refresher course at the Engineer School but if this were not possible he would report direct to his unit.³⁵

The expansion which resulted from the draft changed this happy situation, both as to Reserve and Regular Army officers. The shortage of Regular Army officers became apparent at once. As a matter of fact, only 435 of 767 needed for projected troop units and replacement training centers were available. A committee appointed to devise means of surmounting this crisis made sev-

eral concrete suggestions. Immediate quotas could be filled by reassigning 188 officers from existing troop units and by transferring 51 more from civil works to troop duty. Cutting allotments to troop units would enable the Corps to spread its small supply of Regulars. The number of Regular Army officers was accordingly reduced from 18 to 10 per aviation regiment, from 14 to 6 per general service or combat regiment, and from 6 to 4 per combat battalion. Whereas 170 had been previously slated for replacement training centers, only 24 were allotted to each of the two centers in October. To provide for the future the committee suggested that more retired officers be recalled to active duty and that some of the Engineer instructors at West Point be released. The proposal to tap the supply of retired officers was adopted and many of them were recalled. The other proposal, to reduce the number of Engineer instructors at the Military Academy, while not immediately acceded to, fired the opening gun in a struggle to abate the assignment of Engineer officers to nonengineer duties, a struggle that was waged over Reserve as well as Regular Army officers. Prominent, if not at the core of the arguments that were advanced during the push and pull that ensued, was the desire of the Corps of Engineers to as-

³⁴ 1st Ind, AG 680.1 (10-30-41) MC-C to CofEngrs, 21 Nov 41, on Ltr, CofEngrs to TAG, 30 Oct 41, sub: ERTCs for Augmentation of Army. 680.1, RTC (C), Pt. 1.

³⁵ (1) Ltr, Actg CofEngrs to ACofS G-1, 10 Mar 41, sub: Effect of the Expansion Program on Distr of RA Offs, CE. 320.2, Engrs Corps of, Pt. 12. (2) Ann Rpts OCE, 1939, 1940. (3) AG Ltr 210.1 ORC (11-14-39) R-A to Corps Area Comdrs *et al.*, 8 Dec 39, sub: Suspension of Appointments in ORC. 326.3, Pt. 27. (4) Personal Ltr, Claterbos to Maj D. G. White, U. S. Engr Office Boston, 26 Sep 40. 326.3, Pt. 29. (5) Memo, C of Pers Sec for O&T, 23 Sep 40, sub: Policy on Calling Res Offs to Active Duty. 326.02, Pt. 4.

sume control of the military construction program.³⁶

The Quartermaster General was supervising the building of camps, airfields, munitions plants, and other military installations that had become necessary with the expansion of the Army. From the start, the Quartermaster Corps had been forced to dip into the Engineers' pool of Reserve officers in order to manage this program, eventually to reach eleven billion dollars. As of October 1940, 198 of the 249 Engineer Reserve officers assigned to other branches were with the Quartermaster Corps. Early in December the QMC began to bite into the Engineers' Regulars. At this time, Lt. Col. Brehon B. Somervell was called in to direct military construction, and he brought with him six other outstanding Engineer officers.³⁷ The Engineers wanted these officers back and sought to prevent the loss of additional officers to General Staff and other duties outside the Corps. At the same time they aspired to take charge of the military construction program, asserting that their field organization for the now diminishing civil works was ideal for the purpose. As Schley strove to explain it, "the Corps of Engineers can readily take on additional work but can not spare additional officers for assignment or detail to other agencies."³⁸

In November 1940 the Engineers had obtained a slice of the military construction program when airfield construction was transferred to their jurisdiction. Shortly afterward they were given equal priority with the Quartermaster Corps in calling up Reserve officers for this work. In January 1941 they gained a few more officers when the General Staff agreed to a smaller number at the Military Academy.³⁹

Until the spring of 1941 the Engineers

were more concerned about the distribution of Regular Army officers than about that of Reserve officers. In March 1941 Kingman notified the General Staff of the shortages caused by unexpected demands for armored and aviation engineers. Engineer Regulars available for troop units constituted about 18.3 percent of the number authorized whereas Regulars constituted 21.5 percent of the officers in the Army as a whole. He recommended that his Corps be given sixty graduates of the 1941 class at West Point, that no additional officers be assigned to branch immaterial duties, that the number of instructors at West Point be cut again, that assignments to public works not essential to national defense cease. Finally and most important, he wanted all the officers loaned to the Quartermaster Corps, with the single exception of Somervell, returned to the Engineers by June. The Adjutant General allotted 64 of 764 new appointments to the Engineers and agreed to do his best to prevent the assign-

³⁶ (1) Memo, C of Pers Sec for Kingman, 13 Sep 40, sub: Rpt of Activities Pers Sec for Wk Ending 13 Sep 40. 025, Pt. 1. (2) Memo, C of Pers Sec for Kingman, 16 Sep 40, sub: Reorgn Incident to Expansion Program. 320.2, Pt. 25. (3) Rpt Special Bd OCE to CofEngrs, 17 Oct 40, sub: Proposed Distr of Commissioned Pers Expansion Program, 1941. 210.3, Engrs Corps of. (4) Testimony, CofS, 28 Apr 41, H Comm on Appropriations, *Military Establishment Appropriation Bill, 1942, Hearings*, p. 32. (5) Memo, C of Pers Sec for Kingman, 31 Jan 41, sub: Rpt of Activities Pers Sec for Wk Ending 31 Jan 41. 025, Pt. 1.

³⁷ Memo, C of Pers Sec for Kingman, 10 Oct 40, sub: Res Offs Detailed to Brs for Extended Active Duty. 326.02, Pt. 4.

³⁸ Memo, Kingman for Schley, 27 Jan 41, sub: Det of Experienced Engr Offs From Work of CE. 210.3, Engrs Corps of, Pt. 15.

³⁹ (1) Memo, C of Pers Sec for Kingman, 28 Feb 41, sub: Rpt of Activities Pers Sec for Wk Ending 28 Feb 41. 025.1, Pt. 1. (2) Ltr, TAG to Cs of Arms and Svs, 26 Dec 40, sub: Extended Active Duty, Constr Program. 326.02, Pt. 4.

ment of additional officers to branch immaterial duties or nondefense tasks. Engineer officers supervising the construction program would not be returned to the Corps but would remain with The Quartermaster General.⁴⁰

The reservoir of Reserve officers, which had seemed so ample, meanwhile developed unanticipated leaks. In October 1940 the War Department allowed key employees in defense industries to be deferred, and the following January the Navy was permitted to siphon off engineers from ROTC units. In spite of these losses and of continuing levies by the Quartermaster Corps the Engineers remained sanguine about their Reserve until April 1941. At this time Bessell of the Personnel Section pronounced the supply of second lieutenants sufficient to fill vacancies in all units through the 30th of June provided only that unexpected deferments, expansion of the military construction program, or a step-up in mobilization did not occur. The supply of officers in grades above second lieutenant was already deficient.⁴¹

Throughout the rest of the year the Engineers protested the depletion of their Reserve. In some corps areas Engineer officers had been ordered to duty with troop units of other arms and services; in others, non-Engineer officers had been ordered to duty with the Engineers. Contrary to assurances that adequate numbers were available for assignment to the Engineer School, corps areas had not met quotas. The Quartermaster General continued to press for and receive more officers.⁴² Between July 1940 and August 1941 the Engineer Reserve had been reduced by 1,659 officers through transfers and deferments. Schley estimated that 6,736 officers would be required for

1942 and that only 6,187 were available—an over-all shortage of 549 that was most pressing in the upper grades. “I have expressed concern on several previous occasions about the continued diversion of officers . . .,” he reminded the Chief of Staff in August. “I feel that a once adequate Reserve, built up by peace time planning, is now depleted to the point where further diversion must be suspended or standards must be lowered to permit appointments from civil sources.”⁴³ Although a somewhat different analysis showed a surplus of 338 officers, Kingman pointed out that continued transfers would whittle this away and recommended that no more be made.⁴⁴

For the most part the War Department avowed itself helpless to correct this situation and argued that officer candidate school graduates, ROTC graduates, and ineligible reservists on inactive status should, in the future, provide the needed officers. In the summer of 1941 the War Department did

⁴⁰ (1) Ltr, Actg CofEngrs to ACofS G-1, 10 Mar 41, sub: Effect of the Expansion Program on Distr of RA Offs, CE. 320.2, Engrs Corps of, Pt. 12. (2) AG Ltr 320.2 (3-10-41) C-A to CofEngrs, 22 Apr 41, sub: Distr of RA Offs, CE. 210.3, Engrs Corps of, Pt. 16.

⁴¹ (1) Incl, 7 Oct 40, with Ltr, ExO Plan Br OASW to Cs of Sup Arms and Svs, 23 Nov 40, sub: Clas of Res Offs as Key Employees in Industry. 210.01, Res Offs, Pt. 1. (2) AG Ltr 045.71 (1-6-41) M-C to CGs All Corps Areas *et al.*, 21 Jan 41, sub: Navy Proc of Engr Grads, Incl ROTC. 353, ROTC, Pt. 16. (3) Personal Ltr, Godfrey to Dr. J. E. Burchard, MIT, 1 Feb 41. 326.3, Pt. 29. (4) Memo, C of Pers Sec for TAG, 15 Apr 41, sub: Appointment in CE Res, with 1st Ind, AG 210.1 ORC (4-15-41) R-A to CofEngrs. 326.3, Pt. 29.

⁴² Ltr, ACofEngrs to TAG, 28 May 41, sub: Availability of Engr Res Offs. 210.3, Engrs Corps of, Pt. 17.

⁴³ Memo, CofEngrs for CofS, 13 Aug 41, sub: Suspension of Transfer and Detail of CE Res Offs to Other Brs. 326.3, Pt. 31.

⁴⁴ Ltr, ACofEngrs to TAG, 13 Oct 41, sub: Shortage of Engr Res Offs. 320.2, Engrs Corps of, Pt. 14.

promise to require corps area commanders to seek approval before assigning Reserve officers to branches in which they had not been commissioned, and, on 4 September 1941, suspended all transfers or details of Engineer Reserve officers above first lieutenant to other branches except the AAF.⁴⁵

In December 1941 the Engineers finally got all the officers—Regular and Reserve—who had been assigned to The Quartermaster General, and with them the entire military construction program. But the increase in manpower was matched by the expanded mission. The shortage remained unalleviated.

As the shortage of officers became more acute, the effective use of skills became more important. At the outbreak of war in Europe the classification system for officers was confined to rating them according to military and physical efficiency. There was no consistency. Regular Army officers were given annual efficiency reports and periodic physicals. The only records of National Guard officers which were subject to War Department review were the medical reports of those belonging to the National Guard of the United States. Ratings of Reserve officers were made on the basis of sporadic reports filed in the offices exercising jurisdiction over them. Classification by occupational qualifications was haphazard. Although OCE retained under its jurisdiction those Reserve officers having special qualifications, and although these qualifications were recorded when the officers received commissions, the records were not kept up to date. In June 1940 The Adjutant General directed each Reserve officer to fill out a questionnaire about his experience so that the branch in which he was enrolled could check this against his mobilization assign-

ment. In November, the War Department went a step further when an attempt was made to classify all officers as command, staff, or specialist, but it was not until after the declaration of war that a comprehensive system went into effect.⁴⁶

Meanwhile, the Engineers were becoming conscious of the need to depend on more than the law of averages in assigning officers. Godfrey noted in February 1941 that general service regiments should contain five or six highway engineers. About the same time Schley, intent upon increasing the number of civil engineers in ROTC units, suggested closing out all enrollments to other than this group. Godfrey demurred. ROTC enrollments of all types of engineering students should show a sharp rise as a result of the quickening interest in military preparedness. Rather than shut the door as Schley advocated, he proposed a priority system that would place civil engineers in a preferred position, followed by mining, mechanical, electrical, and other categories of the engineering profession. In further defense of his method, Godfrey pointed out that dependence upon power machinery made large numbers of mechanical engineers acceptable. In addition to the establishment of priorities, he sought permission to obtain civil engineers by transfer from

⁴⁵ (1) Personal Ltr, Bessell to Maj Paschal N. Strong, 7 Jul 41. 326.3, Pt. 30. (2) Ltr, ACofEngrs to TAG, 13 Oct 41, sub: Shortage of Engr Res Offs, with 1st Ind, 28 Oct 41. 320.2, Engrs Corps of, Pt. 14.

⁴⁶ (1) MR 1-3, 30 Oct 39. (2) Ltr, C of Pers Sec to TAG, 5 Jan 39, sub: Clas of Res Offs. 370.01, Pt. 1. (3) Memo, CofEngrs for Lower Miss. Valley Div Engr, 12 Dec 39, sub: Estab of Offs' Qualifications File. 201.6, Pt. 1. (4) AG Ltr 381 (9-18-39) P (A) to CofEngrs, 27 Sep 39, sub: Rev of Mil Qualifications List for Offs. 326.3, Pt. 27. (5) Davenport and Kampschroer, Personnel Utilization, pp. 87-89, 183-85.

nonengineer ROTC units.⁴⁷ In July 1941 both of Godfrey's schemes were approved. On 15 September 1941, when war was almost upon the country, the War Department gave its blessing to commissioning as Engineers 5 percent of the total number of ROTC graduates from other branches. Similar concessions were made to the Quartermaster Corps at the same time, while the Signal Corps and the Air Forces were each allowed to commission 10 percent from other branches.⁴⁸ In a further effort to classify officers, the Personnel Section had established a machine records unit. By the end of July, 95 percent of the qualification questionnaires sent to Engineer Regular Army, National Guard, and Reserve officers had been received and 80 percent of these had been classified. Henceforth OCE was prepared to furnish lists of Reserve officers with 285 different engineering qualifications to Corps of Engineers agencies.⁴⁹

Training the First Civilians

The great expansion in personnel, especially of citizen soldiers, challenged the Engineers' training facilities almost at once. Before recruits could be instructed and led, teachers and leaders had to be developed. Regular officers and enlisted men were prepared to command and teach, but there were not enough of them. In order to qualify more individuals for this job, the Engineer School in July 1940 abandoned the nine-month course for Regular Army officers entirely and cut the length of the enlisted men's courses. For the next year and a half Reserve and National Guard officers, who were only partly prepared, and officer candidates, who were wholly unprepared to instruct others, would make up the bulk of the school's student body. Reserve and National

Guard officers attended from four to five weeks and officer candidates for twelve.

In an effort to supply occupational specialists in greater numbers and more quickly, the school divided the long multi-purpose courses for enlisted men into shorter courses of one subject each. Thus surveying and drafting became two courses as did water purification and mechanical equipment. Instead of spending four to eight months at the school, enlisted men graduated after three months. The graduate of 1941 mastered only one subject, but within his limited sphere he could perform just as well as the graduate of 1939. In order to train men faster, the Engineers had begun what is known in industry as job breakdown or what might be called the specialization of specialists. Officer training was not so narrow. The aim in the case of OCS candidates was to impart a little knowledge about a great number of things. National Guard and Reserve officers were at the school to brush up on the latest tactics and equipment.

By shortening the course of study and by

⁴⁷ (1) Memo, Schley for Kingman, 28 Feb 41. 353, ROTC, Pt. 16. (2) Memo, C of O&T Sec for CofEngrs, 7 Apr 41, sub: Brs of Engineering Represented in ROTC Grads. Same file. (3) Memo, C of Pers Sec for Kingman, 9 May 41, sub: Rpt of Activities Pers Sec for Wk Ending 9 May 41. 025.1, Pt. 3. (4) Memo, C of O&T Sec for CofEngrs, 4 Feb 41, sub: Off Pers for Gen Sv Regts. 320.2, 41st Engrs.

⁴⁸ (1) Memo, C of O&T Sec for Kingman, 9 Jul 41. 353, ROTC, Pt. 16. (2) Memo, ACofEngrs for TAG, 18 Jul 41, sub: Commissioning of ROTC Grads in CE Res. 326.3, Pt. 30. (3) Memo, C of O&T Sec for Senior Engr Instructors ROTC Units, 22 Jul 41. 326.3, Pt. 30. (4) Ltr, AG 210.1 ORC (7-18-41) RB-A to COs *et al.*, 15 Sep 41, sub: Instrs Governing Commissioning of ROTC Grads in Arms and Svs Other Than Those in Which Trained. P&T Div file, ROTC-Policies-Grads.

⁴⁹ (1) Memo, J. Y. Lineweaver, Pers Sec, for Cs of Secs OCE, 29 Jul 41. 210.01. (2) Ann Rpt OCE, 1941.

enlarging facilities and faculty, the school was able to multiply its output from 87 officers and 66 enlisted men in the fiscal year 1940 to 1,528 officers and 260 enlisted men in 1941. Many officer graduates were destined to become instructors at the two engineer replacement training centers which opened in the spring of 1941 to give basic military and engineer technical training to citizen soldiers. But before Pearl Harbor most of the incoming tide of civilians flooded directly into engineer units, which had to turn them first into soldiers and then into engineers who could contribute to the functioning of the unit as a whole.⁵⁰

Confusion inevitably attended the beginnings of such a vast program. When the 19th Engineer Combat Regiment was activated in June 1940 personnel arrived in exactly reverse order from that prescribed—first, the recruits, then the enlisted cadre, and finally the officers. Shortages of equipment were evident in the newly organized 12th Engineer Combat Battalion which had as its first month's objective a complete uniform for every man. The experience of the 4th Engineers in expanding from a company to a battalion was typical. Within a few months the unit had to train recruits, supply cadres to other units, and send a group on maneuvers, as well as to furnish men for demonstrations.⁵¹

General Headquarters had been activated in July 1940 to co-ordinate and supervise the training of Army field forces, and shortly thereafter tactical units were grouped into four armies. Although engineer units came under the control of separate army commanders, the training plan for all was essentially the same. They were expected to follow the Engineer MTP 5-1 which became available in September 1940. General engineer units were to receive thir-

teen weeks' training. At the end of the two-week basic period, troops were supposed to be able to wear and care for their equipment, to fire their rifles, and to march. From the third to the tenth week training of individuals continued with emphasis on technical subjects. In the remaining three weeks individuals were expected to learn how to function in a team. Special units were not to receive so much preliminary instruction. Two weeks of basic military training and two weeks of practice in operating together were expected to suffice because such units were to be made up of technically qualified individuals.⁵²

After thirteen weeks of training under the MTP, general engineer units were expected to go on to combined training with other arms and services. Just as individuals had been welded into an engineer unit, so various units—infantry, artillery, engineers, and other combat or supporting elements—would be integrated into divisions, corps, and armies. This phase of training included participation in maneuvers, and was supposed to last seven to eight months. The Army thus allowed about a year to train the raw recruit—too short a time, in the judgment of the Engineer School, to permit all units to become efficient.⁵³

⁵⁰ Corresp in 352.11, Engr Sch, Pts. 9, 11; 325.11, Pts. 4, 9, 10; 210.3, Engr Sch, Pt. 4; 221, Pt. 8; and EHD file, Loose Corresp, 1940, 1941.

⁵¹ (1) Memo, Lt Col Frank L. Blue, Jr., CE, to Herbert H. Rosenthal, 19 Jun 50. EHD files. (2) Personal Ltr, Galloway to Maj Robert E. York, CO 71st Engr Co, 2 Aug 40. 320.2, Pt. 25. (3) "Engineer Troop Activities," *The Military Engineer*, XXXIII (March-April, 1941), 158. (4) Personal Ltr, Maj Frank O. Bowman, CO 4th Engr Bn, to Godfrey, 26 Jul 40. 320.2, 87th Engrs.

⁵² MTP 5-1, 5 Sep 40.

⁵³ (1) Incl, 25 Sep 40, with Ltr, Comdt Engr Sch to CofEngrs, 25 Sep 40, sub: Mission and Tng of Engrs. 353, Pt. 15. (2) Ltr, CofS GHQ to All Army Comdrs, 4 Jan 41, sub: Combined Tng. Same file.

The committees which studied the training of divisional engineer units in the research course agreed that it would take at least two years to create an efficient division. This much time could not be had but time could be made by eliminating or minimizing "numerous ceremonies, good will tours, white washed tent pegs, fatigue and police [duty]." One committee suggested that "post service commands should be instituted utilizing civilian employees, labor units organized from those less physically fit or relief labor. A recruit cannot be instilled with pride in being a soldier by sorting garbage on the post dump or driving the 'honey' wagon."⁵⁴ The committees returned time and again to the importance of resisting the inclination of post commanders to use engineers as labor troops and warned that "the post commander may be pleased at our efficiency in building barracks or greenhouses but inefficiency in building a ponton bridge and delaying a division or corps in maneuvers for six or eight hours is unexplainable and not soon forgotten."⁵⁵

Corps combat regiments, general service regiments, separate battalions, and aviation battalions could profit considerably more than combat and armored battalions from assignment to construction work around an Army post. But such work should be comparable in kind, and preferably in extent, to that which the units might perform in a theater of operations. In November 1940 the assistant chief of O&T expressed fears that the approximately twenty-five corps and army units scheduled for activation by the following summer would lack such opportunities and consequently "much of their work will be of the 'dog-robbing' nature for the post commander and other units."⁵⁶

Under pressure of expansion the Army was forced to alter some of its best-laid plans. For many individuals and for many units training did not proceed according to schedule. (*Table 3*) The 12th Engineer Combat Battalion, activated on 1 July 1940, struggled against shortages of equipment, inadequate facilities, turnover of personnel, and red tape—"every week there is a new form or an amendment to an old one, and it takes the best officers just to keep the papers straight." The unit succeeded in finishing about eleven weeks of a thirteen-week program in six and a half months. The 15th cleared stumps, graded banks, dumped sand for two swimming holes, and participated in post exercises and reviews, yet managed to spend about 60 percent of its time on the standard program. The 17th Engineer Armored Battalion reported similar diversions, having supervised and furnished tools and equipment for "various construction jobs . . . from building grease racks and canvas-top theaters to the construction of moving-target, moving-vehicle, and 1,000-inch pistol ranges."⁵⁷

Some combat regiments, general service regiments, and separate battalions did engage in profitable construction work. The commanding officer of the 41st General Service Regiment treated the construction of a post road as a tactical assignment and

⁵⁴ Info Bull 71, 2 Jan 41, sub: Mission, Duties, and Tng of Div Engr Units, p. 11.

⁵⁵ (1) *Ibid.*, App. III, p. 3. (2) See also, Rpt, Mission and Tng of Engr Bn (Armed). Second Research Course, Vol. II.

⁵⁶ Memo, AC of O&T Sec for Godfrey, 7 Nov 40, sub: Tng of Engr Units in Other Than Combat Duties. 353, Pt. 15.

⁵⁷ (1) Info Bull 77, 28 Feb 41, sub: Activation of Engr Trp Units in 1940. (2) Memo, O&T Sec for CofEngrs, 31 Mar 41, sub: Inspec of Engr Units, Fts. Bragg, Jackson, and Benning, 23-29 Mar 41. 333.1, Pt. 2.

TABLE 3—DISTRIBUTION OF TRAINING TIME FOR ENGINEER COMBAT BATTALION OF INFANTRY DIVISION AND ENGINEER ARMORED BATTALION OF ARMORED DIVISION

Subject	Combat Battalion MTP–September 1940		Combat Battalion MTP–December 1941		Armored Battalion MTP–December 1941	
	Hours	Percent	Hours	Percent	Hours	Percent
Total.....	572	100.0	572	100.0	528	100.0
Basic.....	95	16.6	95	16.6	109	20.6
Technical, combat.....	82	14.3	82	14.3	74	14.0
Technical, engineer.....	303	53.0	300	52.5	134	25.4
Field fortifications and camouflage.....	40	7.0	40	7.0	0	0.0
Use and supply of tools, equipment, and materials.....	13	2.3	13	2.3	16	3.0
Bridges.....	80	14.0	77	13.5	56	10.6
Obstacles.....	50	8.7	50	8.7	20	3.8
Demolitions and mining.....	40	7.0	40	7.0	16	3.0
Roads, construction and maintenance.....	24	4.2	24	4.2	12	2.3
General construction.....	16	2.8	16	2.8	0	0.0
Engineer reconnaissance.....	20	3.5	20	3.5	6	1.2
Night operations, technical.....	8	1.4	8	1.4	0	0.0
Battalion field technical training.....	12	2.1	12	2.1	0	0.0
Map reading.....	0	0.0	0	0.0	8	1.5
Tactical.....	72	12.6	75	13.1	115	21.8
Open time.....	20	3.5	20	3.5	48	9.1
Specialist training, operation of vehicles.....	0	0.0	0	0.0	48	9.1

Source: MTP 5-1, 5 Sep 40, 19 Dec 41.

worked his men in two shifts to meet a self-imposed ten-day completion date. The 97th Separate Battalion, like the 41st a Negro unit, was not so fortunate. Progress would have been greater, reported its commanding officer, if there had not been an excessive amount of guard duty.⁵⁸

Aviation battalions tried to take advantage of every opportunity to construct runways, taxi strips, ground facilities, and protective and defensive structures. The 803d saw many opportunities for improving the facilities at Westover Field, Massachusetts, and asked for money to buy construction materials. The 809th, activated on 1 June 1941 with a nucleus of seasoned troops

from the 3d Engineer Combat Regiment, conducted specialist training for three weeks before setting sail for the Philippines. After arriving there the unit, with the help of some 800 civilians, began to construct a large airfield. Training as such, defined by the commanding officer as combat exercises in ground defense and protection of installations, was temporarily discontinued.⁵⁹

⁵⁸ (1) Memo cited n. 57 (2). (2) Ltr, CO 97th Engr Bn (Sep) to CofEngrs, 9 Sep 41, sub: Rpts on New Orgn. 320.2, 97th Engrs.

⁵⁹ (1) Tng Directive 41-42, Hq 803d Engr Bn Avn (Sep), 30 Jul 41. 320.2, Pt. 30. (2) Ltr, CO 803d Engr Bn Avn (Sep) to CofEngrs, 26 Aug 41, sub: Rpt on New Orgn. Same file. (3) Ltr, CO 809th Engr Co Avn (Sep) to CofEngrs, 10 Sep 41, sub: Rpt on New Orgn. 320.2, 809th Engrs.

Ponton units, which were the most numerous of the special units activated during 1941, reported a considerable range of experience. The 73d Light Ponton Company and the 90th Heavy Ponton Battalion, both stationed at Fort Lewis, Washington, pronounced the bridging sites there excellent, and both units were able to begin formal training within a month of activation. In contrast, the 85th Heavy Ponton Battalion found the river near Camp Robinson, Arkansas, too wide for practicing ponton bridge construction. Activated on 4 June 1941, this unit went into the August maneuvers ill-prepared.⁶⁰ The 89th Heavy Ponton Battalion, stationed at Fort Leonard Wood, Missouri, spent the greater part of its first two months "on preparation of barracks and other buildings for the proper housing of the battalion; the policing, grading and draining of the battalion area, including the construction of essential foot paths and service roads; the drawing of equipment and supplies, particularly the unloading of the ponton equipage and its transportation . . . ; the initial servicing of motor transportation and ponton trailers . . . ; and the organization of the men" Organized training was confined to "disciplinary drill and guard, the schooling of certain necessary specialists, and the handling of the equipage."⁶¹

Much time and energy which engineer units might have expended on a systematic training program had been used, as had been feared, for unrelated duties. But maneuvers offered some hope of recapturing lost opportunities. Since the overriding consideration was the creation of armies capable of taking the field at any moment, not much was cut from this phase of training.

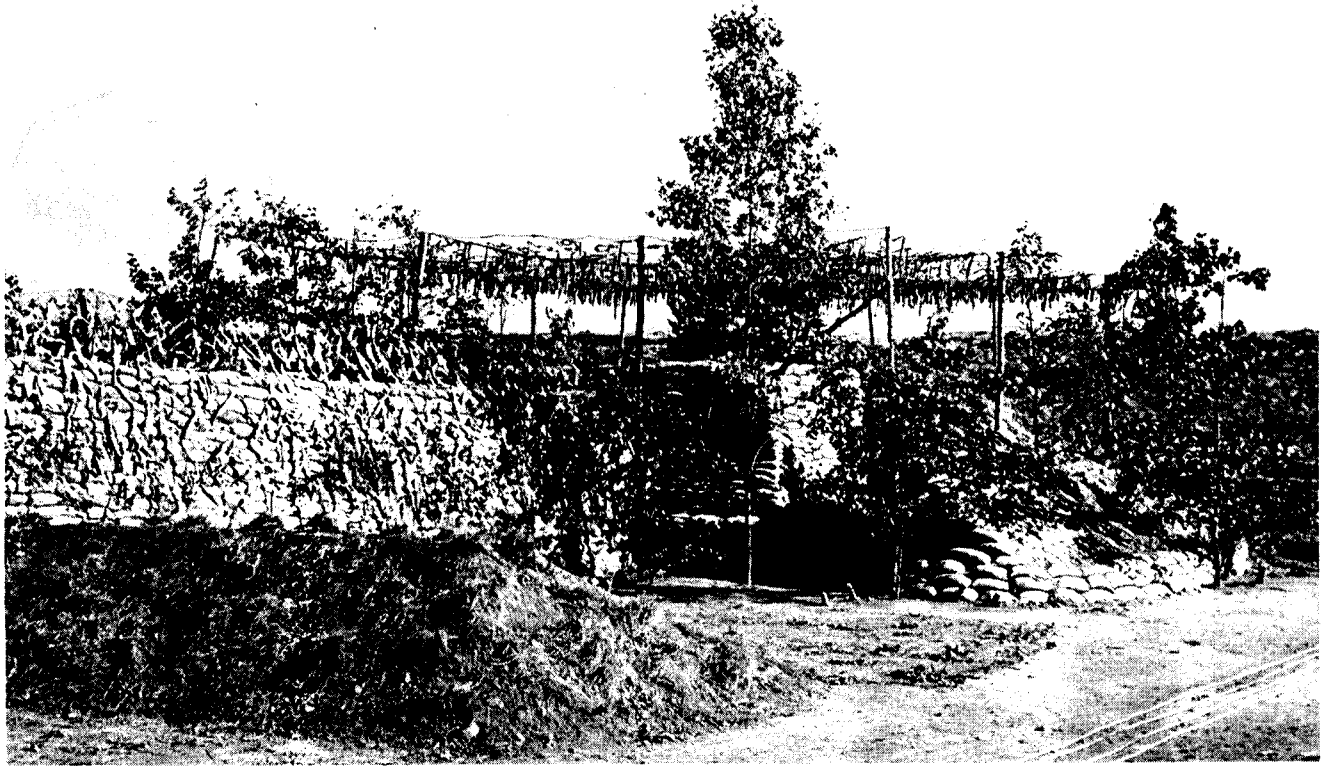
Maneuvers were an extension and also a test of previous training. They were the peacetime Army's nearest approach to war. During maneuvers separate units and corps and field armies were expected to be fused into teams for offensive and defensive action.

The most extensive maneuvers in the Army's history began with a series of corps exercises in June 1941. The VII Corps of the Second Army operated in Tennessee, the V and VIII Corps of the Third Army in Texas and Louisiana, and the IX Corps of the Fourth Army in California. Maneuvers on a greater scale for the three armies followed in Arkansas, Louisiana, and Washington. The climax came in Louisiana in September when the Third Army was pitted against the Second Army in a simulated battle in which from 350,000 to 400,000 men participated. The exercises then drew to a close with the First Army operating in the Carolinas during October and November.

The maneuver area in Louisiana, dominated by three large rivers, offered a great many opportunities for the Engineers to test their capabilities. The rice country east of the Calcasieu River was low and swampy, cut through with canals and bayous. The Calcasieu River valley, like that of the Sabine, was wooded but swampy. By contrast the valley of the Red River was well drained and covered with scrubby pine so that foot

⁶⁰ (1) Ltr, CO 73d Engr Co to CofEngrs, 13 Sep 41, sub: Rpt on New Orgn. 320.2, 73d Engrs. (2) Ltr, CO 90th Engr Bn to CofEngrs, 3 Oct 41, sub: Rpts on New Orgn. 320.2, 90th Engrs. (3) Ltr, CO 85th Engr Bn (Heavy Ponton), 11 Sep 41, sub: Rpt on New Orgn. 320.2, 85th Engrs.

⁶¹ Ltr, CO 89th Engr Bn to CofEngrs, 10 Sep 41, sub: Rpt on New Orgn. 320.2, 89th Engrs.



CAMOUFLAGED REVETMENTS *for protecting aircraft from enemy air attack constructed by 21st Engineer Aviation Regiment during the Carolina maneuvers, November 1941.*

soldiers could move cross-country.⁶² The road system was excellent.

Engineers began to arrive in Louisiana about two weeks before the main forces in order to provide shelters and other facilities. Among the first units to get there was the 21st Engineer Aviation Regiment. The 21st turned the rutted, flooded airport at Lake Charles into a usable field, extended the runways at Monroe to provide a safer margin for landings and take-offs, and took advantage of the nearby woods to provide a camouflaged dispersal area at Natchitoches. So realistically did the 21st Engineers create false hedgelines over the Natchitoches field that a pilot almost landed outside the strip. All runways were paved. Landing mats did not come into the hands of aviation engineers until the November maneuvers in North Carolina.⁶³ The Commanding General, Air Force Combat Command, could

scarcely contain his enthusiasm. "These exercises certainly justified the requirements for Aviation Engineers and the need for many additional ones becomes more and more apparent," he wrote.⁶⁴ Neither the Second nor Third Army had a full complement of engineers—a fact that accounted in part for repeated statements that engineer troops were overworked in what *Time* magazine summed up as "a battle of engineers."⁶⁵

⁶² Col. DeWitt C. Jones, "Engineer Activities With the Third Army," *The Military Engineer*, XXXIII (December, 1941), 549.

Unless otherwise noted, the following discussion of fall 1941 maneuvers is based upon correspondence in 354.2, Pts. 9 and 10, and 354.2, Bulky.

⁶³ Dwight F. Johns, "Maneuver Notes of Aviation Engineers," *The Military Engineer*, XXXIII (November, 1941), 495-97.

⁶⁴ Personal Ltr, Lt Gen Delos C. Emmons to Reybold, 30 Sep 41. 354.2, Pt. 9.

⁶⁵ *Time*, Oct 6, 1941, XXXVIII, 42.

What catapulted the engineers into such prominence during the two five-day maneuvers in Louisiana was the fact that many tactical situations involved river crossings. There was extensive simulated destruction of bridges by the Second Army and much actual construction and repair of bridges by the Third. Since the weather held good, few road repairs were necessary. An anticipated shortage of water did not develop. Neither land mines nor other obstacles were used to any extent although they might have been effectively employed in a campaign where so much depended on tanks. In the end Lt. Gen. Lesley J. McNair named the maneuver "the Battle of Bridges."⁶⁶

The Engineers were quick to take up McNair's phrase, but not so eager to publicize the rest of his analysis. They did admit that engineers in both armies displayed tactical and technical weaknesses. The advancing Third Army did not have to make any assault crossings. Even with this advantage, Third Army engineers broke no records in bridge building. It took eight combat companies and one heavy ponton battalion 25 hours to complete one 872-foot 25-ton ponton bridge and its approaches and 48 hours to finish another only slightly longer. One battalion and two combat companies spent almost 15 hours constructing a reinforced 10-ton bridge 487 feet long. In all three of these Red River crossings, it was construction of the approaches that took such an inordinate amount of time. Perhaps reconnaissance was at fault; there was a general admission that reconnaissance was weak. At any rate the heavy ponton battalion which provided a 500-foot 25-ton ponton bridge for the Second Armored Division across the Sabine River made much better time—7 hours—but here the approaches were already constructed. Thompson

warned, therefore, against blaming the delays on design of the bridges. Col. William F. Tompkins, Engineer, GHQ, believed that engineers in greater numbers and with more experience could have bridged the Red River in less time, particularly if the work had been carried out in shifts.⁶⁷

Both General McNair and Lt. Gen. Walter Krueger, the Third Army commander, drew a more pessimistic lesson from the maneuvers. Krueger doubted that the engineer effort could have been bettered.⁶⁸ McNair agreed:

If there is any one lesson which stands out above all others, it is the decisive influence of destroyed bridges. In spite of outstandingly intense and effective efforts by the engineers, it was demonstrated that destruction is vastly easier than repair. The best course seems clearly to lie in prevention of destruction, rather than repair after destruction. We have swift transportation and great fire power. The seizure of routes logically should be the first step of a force which contemplates a swift advance. . . . The enemy cannot destroy all routes completely in any reasonable time.⁶⁹

Thompson had a ready answer. "In real war, a delay of a day or so in front of an obstacle which will surely be overcome is seldom a matter of great importance," he concluded, "whereas, in a maneuver problem lasting altogether only four or five days, such delay is highly important, and attracts great attention." German experience backed

⁶⁶ (1) Jones, "Engineer Activities with the Third Army," *loc. cit.*, 551. (2) Incl, with Ltr, Capt Clayton E. Mullins, Asst ExO Engr Bd, to Sturdevant, 9 Oct 41, sub: Critique Conclusions, Louisiana Maneuvers. 354.2, Bulky.

⁶⁷ Lt. Col. Mason J. Young, "Crossings of the Red River," *The Military Engineer*, XXXIV (January, 1942), 30-34.

⁶⁸ Ltr, Mullins to Sturdevant, 9 Oct 41, sub: Critique Conclusions, Louisiana Maneuvers. 354.2, Pt. 9.

⁶⁹ Incl with ltr cited n. 68.

up his contention, he claimed. None of the German victories had been won because of "split-second bridging of rivers."⁷⁰

Maneuvers were the high point in training before Pearl Harbor. Danger of a let-down faced the Army after they were over. Without extraordinary efforts by commanding officers unit training would seem dull to troops who had gone through maneuvers, but the importance of making such an effort could not be exaggerated. Only by strenuous application to the correction of weaknesses which had shown up in maneuvers could an efficient fighting force be created. The Engineer of the Second Army put it this way:

Engineer troops have reached a commensurate degree of efficiency for the length of time the majority of them have been in training. On this standard their work was exceptionally well done. As to the more severe standard of being fit to fight, there are many and serious shortcomings. Practically all of the technical shortcomings are known to all officers. Their remedy, more detailed training, is also known.⁷¹

He joined other Engineer observers in advocating more drill in basic Engineer subjects, more attention to reconnaissance and evaluation of information, and more training in

ponton operations and in the tactical use of demolitions.

A common explanation of ranking officers for military deficiencies in maneuvers was want of leadership. Three other factors must be added: insufficient time to prepare, inadequacy of facilities, and shortages of equipment. All these elements contributed to the results or lack of results. In view of the problems which arose it is difficult to conceive what the story would have been had the Corps of Engineers been forced to mobilize under the much faster-paced plans of the thirties. As it was, the Engineers experienced their full share of the errors and confusion that pervaded the military history of this period. Yet the years 1939 through 1941 saw tremendous progress. These years were marked by great advances in organization and doctrine, by the development of new equipment, and by the creation of a citizen Corps which, although not quite ready to fight, was able to fight if it had to.

⁷⁰ Memo, Thompson for Kingman, 7 Oct 41, sub: Army Maneuvers in Louisiana, 15-20 Sep 41. 354.2, Pt. 10.

⁷¹ Rpt, Engr 2d Army to CofEngrs, 29 Nov 41, sub: Engr Activity in 2d Army Maneuvers During Aug and Sep 41 in Arkansas and Louisiana. 354.2, Bulky.